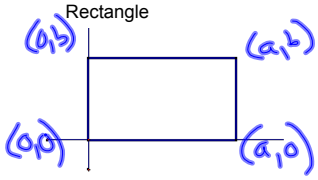
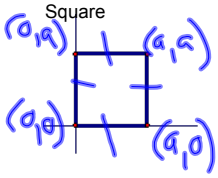
8-7 Coordinate Proof with Quadrilaterals

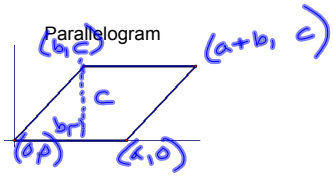
Rectangle



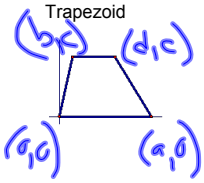
Square



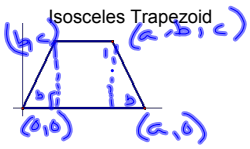
Parallelogram



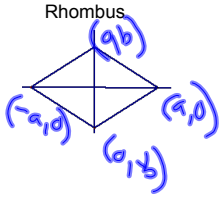
Trapezoid



Isosceles Trapezoid

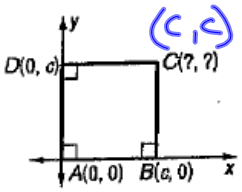


Rhombus

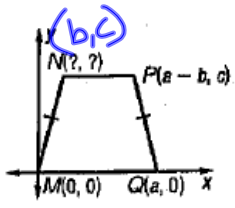


Worksheet

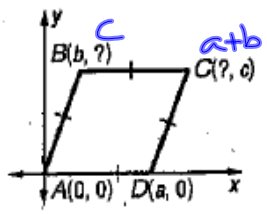
1.



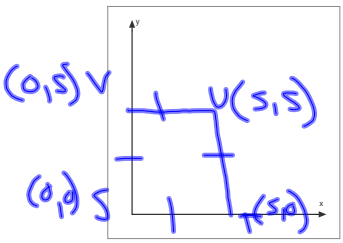
2.



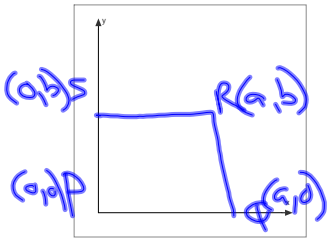
3.



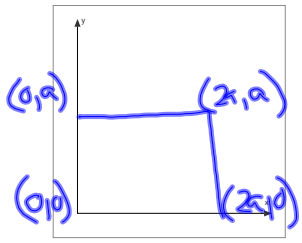
4. square $STUV$ with side s units



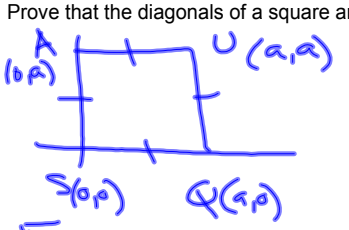
5. parallelogram $PQRS$ with congruent diagonals



6. rectangle *ABCD* with length twice the width



Prove that the diagonals of a square are perpendicular

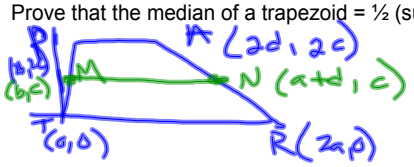


$\overline{AQ} \perp \overline{US}$ b/c slopes are opp. rec.

$\overline{AQ}$ $m = \frac{0-a}{a-0} = \frac{-a}{a} = -1$

$\overline{US}$ $m = \frac{a-0}{a-0} = \frac{a}{a} = 1$

Prove that the median of a trapezoid = ½ (sum of bases)



$MN = \sqrt{(a+d-b)^2 + (c-c)^2} = a+d-b$

$TR = \sqrt{(2a-0)^2 + (0-0)^2} = 2a$

$PA = \sqrt{(2d-2b)^2 + (2c-2c)^2} = 2d-2b$

$MN = \frac{1}{2}(TR+PA)$

$a+d-b = \frac{1}{2}(2a+2d-2b)$

$a+d-b = a+d-b$ ✓

p450
11-17, 19, 20